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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,846	08/26/2005	Desmond K. Bull	HO235/000HO	2198

24350 7590 03/01/2007
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EXAMINER

DUNLAP, JONATHAN M

ART UNIT	PAPER NUMBER
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2855

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/01/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/525,846

Applicant(s)

BULL ET AL.

Examiner

Jonathan Dunlap

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date August 26, 2005/July 1, 2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. **Claims 1-2, 4, 7 and 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Cushman (U.S. Patent 2,592,868)** in view of **Shoberg et al. (U.S. Patent 4,989,450)**.
2. Considering **claim 1**, Cushman discloses a handheld apparatus for checking the tension of a wire, including:
 - A support **11** having two spaced pegs **20** rigidly secured thereto (**Figure 1; Column 3, lines 6-10**);

- A spring **14** mounted on the support **11** between the two pegs **20** (**Figure 1-2; Column 2, lines 25-39**);
- The spring **14** and pegs **20** being arranged such that a wire **X** passing in a predetermined path over and/or under the spring **14** and the pegs **20** is deflected from its normal position and exerts a pressure on the spring **14** in a predetermined direction (**Figure 1-3; Column 3, lines 39-52, lines 66-74**);
- A displacement measuring device **6** associated with the spring **14** and adapted to measure the displacement of the spring **14** when a wire **X** is in said predetermined path (**Figure 1-3; Column 3, lines 39-52, lines 66-74**).

The invention by Cushman discloses all of the claimed limitations from above but fails to disclose:

- Preprogrammed computing means electrically connected to the displacement measuring device and adapted to display upon a read out a reading for the tension upon the wire when the wire is in said predetermined path;
- The computing means being connectable to a fully portable electrical power source.

3. However, Shoberg teaches:

- Preprogrammed computing means electrically connected to the displacement measuring device and adapted to display upon a read out a

reading for the tension upon the wire when the wire is in said predetermined path (**Column 4, lines 34-65**);

- The computing means being connectable to a fully portable electrical power source (**Column 4, lines 34-39**).

4. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate a portable electrical power source and a preprogrammed computing means in a handheld tension measuring device as taught by Shoberg in the invention by Cushman. The motivation for doing so is found in the teachings of Shoberg in that Shoberg teaches that a preprogrammed computing means is used "to obtain quick and consistently accurate tension readings of the cables for testing and adjustment purposes" (**Column 1, lines 10-18**).

Considering **claim 2**, Cushman discloses that each peg **20** is independently selected from the group consisting of: protrusion, notch, hook, slot (**Figure 2; Column 5, lines 42-60**).

Considering **claim 4**, Cushman discloses that both pegs **20** lie in the same plane, at the same level in the plane and the spring **14** is at a higher level than the pegs **20** in that plane (**Figure 2**).

5. Considering **claim 7**, Cushman discloses all of the claimed limitations from above but fails to disclose that the support is an elongated member with a handle

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portion at one end, the length of the handle portion being inclined at an acute angle to the length of the remainder of the support.

6. However, Shoberg teaches that the support is an elongated member with a handle portion **12** at one end, the length of the handle portion **12** being inclined at an acute angle to the length of the remainder of the support (**Figure 1; Column 3, lines 18-24**).

7. Therefore, it would have been obvious to one of ordinary skill in the art to the time of the invention to include an elongated support with a handle at one end, which is inclined at an acute angle to the length of the remainder of the support as taught by Shoberg in the invention by Cushman. The motivation for doing so would be to provide an ergonomic grip when utilizing the tool.

8. Considering **claim 12**, Cushman discloses all of the claimed limitations from above but fails to disclose that the displacement measuring device is one of the members of the group as claimed.

9. However, Shoberg teaches that the displacement measuring device is selected from the group consisting of: strain gauge, load cell, potentiometer (linear or rotary) encoder (linear or rotary) (**Column 2, line 1-6; Column 3, lines 39-54**).

10. Therefore, it would have been obvious to one of ordinary skill in the art to the time of the invention to include either a strain gauge, load cell, potentiometer or an encoder as the displacement measuring device as taught by Shoberg in the invention by Cushman. The motivation for doing so would be to provide an output signal which

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can be transmitted via a cable to a microprocessor as taught by Shoberg (**Column 3, lines 46-53**).

11. **Claims 3 and 8** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Cushman (U.S. Patent 2,592,868)** in view of **Shoberg et al. (U.S. Patent 4,989,450)** and further in view of **Wilhelm (EP 10 386 38)**.

Considering **claim 3**, Cushman, as modified by Shoberg, fails to disclose that a housing for the fully portable electrical power source is incorporated in the support

Considering **claim 8**, Cushman, as modified by Shoberg, fails to disclose that at least the handle portion of the support is hollow to provide a housing for the fully portable electrical power source.

12. However, Wilhelm teaches:

Considering **claim 3**, that a housing **14** for the fully portable electrical power source is incorporated in the support **12 (Figure 1; [0022])**.

Considering **claim 8**, that at least the handle **14** portion of the support **12** is hollow to provide a housing for the fully portable electrical power source **16 (Figure 1; [0022])**.

13. Therefore, it would have been obvious to one of ordinary skill in the art of portable measuring and testing devices at the time of the invention to enclose a portable electrical power source in the handle of the handheld tension measuring device as taught by Wilhelm in the invention by Cushman, as modified by Shoberg. The

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motivation for doing so is to power the onboard electronics of the device while maintaining the portability and ease of use of the device.

14. **Claims 5-6 and 9-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Cushman (U.S. Patent 2,592,868)** in view of **Shoberg et al. (U.S. Patent 4,989,450)** and further in view of **Lucas (U.S. Patent 1,768,991)**.

The invention by Cushman, as modified by Shoberg, discloses all of the claimed limitations from above but fails to disclose:

Considering **claim 5**, that the pegs are at different levels in the same plane.

Considering **claim 6**, that the predetermined path for a wire to be tested is under the lower peg and over the upper peg, passing over the upper surface of the spring.

Considering **claim 9**, that the pegs are spaced along the length of the support, and are secure to the support at different levels in a plan parallel to the plan of the support.

Considering **claim 10**, discloses that at least one of said pegs is a hook.

15. However, Lucas teaches:

Considering **claim 5**, that the pegs **A,B** are at different levels in the same plane (**Figure 2; Page 1, lines 90-98; Page 2, lines 33-35**).

Considering **claim 6**, that the predetermined path for a wire **10** to be tested is under the lower peg **B** and over the upper peg **A**, passing over the

upper surface of the spring **45** (**Figures 2-4 and 6-7; Page 2, lines 72-78, 110-127**).

Considering **claim 9**, that the pegs **A,B** are spaced along the length of the support **12**, and are secure to the support **12** at different levels in a plane parallel to the plane of the support **12** (**Figure 2; Page 2, lines 33-35**).

Considering **claim 10**, discloses that at least one of said pegs **B** is a hook (**Figure 4; Page 2, lines 33-45**).

16. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to position two pegs at different levels in order to induce tension as well as making one of the pegs a hook as taught by Lucas in the invention by Cushman, as modified by Shoberg. The motivation for doing so is found in the teachings of Lucas in that Lucas teaches, "the hook or eye 21 retains the cable in engagement with the member B so that the member B acts to hold the cable 10 in pressure engagement with the members A and C" (**Page 2, lines 61-64**).

17. **Claim 11** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Cushman (U.S. Patent 2,592,868)** in view of **Shoberg et al. (U.S. Patent 4,989,450)** and further in view of **Woltron (U.S. Patent 4,747,898)**

The invention by Cushman, as modified by Shoberg, discloses all of the claimed limitations from above but fails to disclose that the spring has a flexibility in the range 0.0016 nn/N-0.043mm/N.

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18. However, Woltron teaches a spring having flexibility in the range 0.0016 mm/N - 0.043 mm/N (**Column 3, line 63-67**).

19. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a spring having a flexibility in the range as claimed. The flexibility of a spring is the inverse of the spring constant (N/mm). According, Applicant claims a spring constant range of 23.25 N/mm - 625 N/mm. The motivation for doing so is found in the teachings of Woltron in that Woltron teaches that the "leaf spring in endurance load alternation tests withstood more than double the number of load cycles at which a similar steel leaf spring became defective in comparison tests" (**Column 3, lines 67-68; Column 4, lines 1-2**).

20. **Claim 13** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Cushman (U.S. Patent 2,592,868)** in view of **Shoberg et al. (U.S. Patent 4,989,450)** and further in view of **Edinburgh et al. (U.S. Patent 5,123,284)**.

The invention by Cushman, as modified by Shoberg, discloses all of the claimed limitations from above but fails to disclose that the displacement measuring device comprises a strain gauge secured to the surface of the spring that is not contacted by the wire.

21. However, Edinburgh teaches a displacement measuring device **14** that comprises a strain gauge **14** secured to that surface of the spring **11** which is not contacted by the wire **5** in use (**Figure 6; Column 6, lines 35-46**).

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22. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a strain gauge on a portion of the spring which is not contacted as taught by Edinburgh in the invention by Cushman, as modified by Shoberg. The motivation for doing so is taught by Edinburgh in that Edinburgh teaches, "strain gauges are attached to the beam to measure its deflection" (**Column 6, lines 37-38**).

Conclusion


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Cheung, McKernan, and Jordan. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Dunlap whose telephone number is (571) 270-1335. The examiner can normally be reached on M-F 8-5 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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February 20, 2007



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